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IN THE APPLICATION

OF

GIL NEWSOM

FOR AN

HANDSFREE CELLULAR PHONE IN NECKROLL ENCLOSURE

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HANDSFREE CELLULAR PHONE IN NECKROLL ENCLOSURE

CROSS-REFERENCE TO RELATED APPLICATION

This application claims the benefit of U.S. Provisional Patent Application Serial No. 60/204,752, filed May 17, 2000.

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The present invention relates generally to cellular phone accessories and more particularly, to a neckroll that fits over the headrest of a car seat. The neckroll has a microphone and speaker that allow the driver of the car hands-free operation of a cellular phone inside the car.

2. DESCRIPTION OF RELATED ART

The growth and popularity of wireless and mobile cellular communication has been phenomenal. Cell phones are very prevalent and their use is expected to continue its rapid growth. People often use cell phones while driving. However, using a cell phone while driving a motor vehicle can be extremely dangerous because

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the driver is not paying full attention to the road, since the driver is forced to hold the cell phone in one hand, leaving the driver with only one hand to steer the car. So-called hands free cell phone accessories do free both hands of a driver for driving. However, these accessories are frequently awkward and inconvenient to use.

The prior art describes a variety of automobile seat headrest arrangements for mobile communication. For example, a speaker equipped headrest is described in U.S. Patent No. 4,758,047, issued on July 19, 1988 to J.K. Hennington. The headrest is attachable to a vehicle seat structure and includes one or more speakers located at the ends of the headrest. A main base member of the headrest receives the speakers in recessed areas while a headrest cover encloses the speakers and main body.

U.S. Patent No. 5,613,222, issued on March 18, 1997 to D.E. Guenther, describes a cellular telephone headset for hands-free communication. The headset comprises an acoustical earpiece assembly adapted for the acoustical transmission of sound to the ear, a device for mounting the earpiece assembly on the head in a position adjacent an ear of a person wearing the headset, and a flexible acoustical receiving tube having an upper end connected to the earpiece assembly and a lower end attached to an acoustical receiving cup.

A device for mobile telephones is described in U.S. Patent No. 5,687,230, issued on November 11, 1997 to J. Olausson, et al. The device for a mobile telephone apparatus has a loudspeaker and a

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microphone arranged in connection with a headrest. The loudspeaker and the microphone are connected to the mobile telephone apparatus. The headrest is adapted to be removably arranged on a vehicle seat. The loudspeaker is integrated within the headrest and the microphone is arranged on an arm which is attached to the headrest.

None of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed.

SUMMARY OF THE INVENTION

The present invention provides a hands-free cellular phone neckroll attachment that allows the driver of a motor vehicle hands-free operation of a cellular or mobile telephone while driving the vehicle. The detachable neckroll allows a driver to have a telephone conversation while remaining alert and focused on his or her driving. The neckroll has a micro-recorder that can be activated by a driver to record dictation for playback at a later time, which eliminates the need for pen and paper while driving.

The neckroll is convenient and easy to use. Simply wrap the strap of the neckroll around the headrest of an automobile seat and plug the electrical connector of the electrical cord of the neckroll into the cellular phone. The retractable, flexible microphone is pulled out from the neckroll unit and bent close to the mouth of the driver. The volume control unit of the neckroll has conveniently located volume control buttons along with record

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and play buttons which allows for fingertip control of sound adjustments and recording. The easily accessible record and playback buttons make dictating notes simple and straightforward.

The body of the neckroll has a soft fabric exterior, a foam cushioned middle, and a rectangular shaped interior housing that contains the functional electronic components and circuitry. The neckroll supports the head and neck with the soft cushioned portion of the neckroll enhancing comfort and improving posture. The user simply relaxes against the soft support of the neckroll in comfort while he or she speaks and listens.

The neckroll houses a PC circuit board that contains the electronic components needed to achieve the desired functions, for example, electronic components for signal amplification, electronic components for volume control, electronic components for voice recording, etc. The neckroll can incorporate the electronics needed to carry out any required function. Therefore, the neckroll can be interfaced with or connected to a wide range of electronic devices, for example, any type of cellular device; personal computers, such as laptops and palm held computers; or any type of external sound device.

Accordingly, it is a principal object of the invention to provide a hands-free cellular phone neckroll attachment that is comfortable and convenient to use.

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It is another object of the invention to provide a detachable neckroll that helps the driver of a motor vehicle maintain the proper posture while driving which minimizes the effects of fatigue.

It is a further object of the invention to provide a detachable neckroll that allows the driver of a motor vehicle to converse over a cellular telephone while driving without becoming distracted from his or her driving.

Still another object of the invention is to provide a detachable neckroll that allows the driver of a motor vehicle to have two hands on the vehicle's steering wheel while talking over a cellular telephone.

It is an object of the invention to provide improved elements and arrangements thereof in a hands-free cellular phone neckroll attachment for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an environmental, perspective view of a person in a vehicle using the hands-free cellular phone neckroll according to the present invention.

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Fig. 2 is a perspective view of the front portion of the hands-free cellular phone neckroll.

Fig. 3 is a perspective view of the rear portion of the hands-free cellular phone neckroll.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention, as depicted in Figs. 1-3, is a neckroll enclosure **100** that attaches to the headrest **102** of a car seat **104** (in this case, the driver's seat, although the neckroll may be attached to a passenger's car seat, if desired) in a motor vehicle **106** and which allows the driver **110** hands-free use of any type of cellular or mobile telephone **108**. The neckroll **100** has an outer vinyl, fabric, or leather exterior that covers an underlying form cushion (hidden) which, in turn, encases a rectangular shape box (hidden) that houses a printed circuit board (hidden) which contains the necessary electronics for signal amplification and volume control and a power supply such as batteries for the proper operation of the microphone **116** and loudspeaker **118**. In a preferred embodiment, the exterior of the neckroll **100** is made of a soft fabric material.

The neckroll **100** incorporates a micro-recorder for hands-free recording such as dictation. A record button (not shown) and a play button (not shown) disposed on the volume control box **124** are

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used to operate the micro-recorder. The micro-recorder employs an integrated circuit chip (not shown) that allows electronic voice recording and playback.

Fig. 1 is an environmental, perspective view of a person **110** driving a vehicle **106** while using the hands-free cellular phone neckroll **100** to talk on a cellular phone **108**. The neckroll **100** allows the driver **100** to keep both hands **134** on the steering wheel **136** and his eyes focused on the road while carrying on a conversation over the cellular phone **108**. The conveniently located volume control box **124** allows the driver **110** to readily adjust the volume of the microphone **116** or the volume of the speaker **118** to a comfortable level. The soft but firm foam cushioning of the neckroll gently and comfortably supports the driver's head **138** and neck **140** and helps the driver **110** maintain the proper posture while driving. This improved posture increases the driver's alertness and results in a significant reduction in stress because the driver **110** is more attentive to the road and therefore, less anxious.

As is depicted in Fig. 1, the microphone **116** is conveniently disposed in front of the driver's mouth (hidden), therefore, no lateral movement of the driver's head **138** is required for the driver **110** to speak into the microphone **116**. The flexible, retractable microphone **116** is simply pulled out from the unit **100** and bent close to the mouth of the user **110**. Thus, the driver's gaze remains on the road and the driver's eyes are never diverted in an attempt to locate the microphone **116**. The strap portion **112** of the neckroll **100** conveniently wraps around the headrest **102** of

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the car seat **104**. The neckroll **100** is secured around the headrest **102** using a hook and loop fastener **114** such as VELCRO. There is enough play in the neckroll **100** and headrest **102** engagement to allow the neckroll **100** to be either slightly raised or slightly lowered.

The neckroll **100** is electrically connected to the cellular phone **108** by means of an electrical cord **132** that connects directly to the neckroll **100** at one end **148** and that has an electrical connector or phone plug **130** on the opposite end **150** that connects directly to the cellular phone **108**. A speaker and microphone volume control box **124** is disposed inline between the two ends **148,150** of the electrical cord **132**.

Fig. 2 is a perspective view of the front portion **144** of the hands-free cellular phone neckroll **100** showing convex contour of the neckroll **100**. The microphone **116** is designed to pivot up and down around the point **122** at which the microphone arm **120** is attached to the body **152** of the neckroll **100**. Therefore, when the microphone arm **120** is in the upright position (not shown), the microphone **116** is disposed behind the driver **110** and when the microphone arm **120** is in the lowered position, as depicted in Fig. 1, the microphone **116** is conveniently disposed directly in front of the driver's mouth. The volume control box **124** has a separate control or button, such as slider **126**, for adjusting the volume of the microphone **116** and a separate control or button, such as slider **128**, for adjusting the volume of the speaker **118**.

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Fig. 3 is a perspective view of the rear portion **146** of the hands-free cellular phone neckroll **100**. The securing strap **112** has a wide portion **154** that connects directly to the rear upper edge **160** of the body portion **152** of the neckroll **100** with the strap **112** tapering to a narrower width free end **156** that has a fastening material **158**. The free end fastening material **158** adheres to a mating surface of fastening material (hidden) medially disposed on the lower surface **162** of the neckroll body **152**. The length of the strap **112** can be increased or decreased to accommodate the size of headrest **102**. The length of the strap **112** is changed using a length adjustment means, such as buckle **164**.

In an alternate embodiment, the neckroll **100** has a pair of lateral disposed speakers (not shown) and the pivot point of the microphone arm **120** is disposed on the lower lateral portion **166** of the neckroll body **152**. In the alternate embodiment, the neckroll **100** can be electrically connected to the CD player in a car or to the car radio. The dual speakers provide a stereo sound for the listener **110**.

The neckroll **100** can also have a pair of electrical connectors disposed at the free end of the electrical cord (not shown). One connector is connected to the cellular phone **108** and the other connector is connected to the car's cigarette lighter (not shown), which recharges the cellular phone **108**. The cellular phone **108** can be used while recharging. The neckroll **100** can be used with a variety of electrical cords **132** and electrical connectors **130** to

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accommodate a wide range of car accessories such as CD players, tape players, and recording equipment.

The novel and innovative hands-free cellular phone neckroll of the present invention allows for safer driving when using a cellular phone. The neckroll of the present invention can incorporate the electronic components and circuitry conventionally used to implement a specified function, interface, or task. The hands-free cellular phone neckroll is versatile allowing a car's cigarette lighter to be used as an alternative power supply for the neckroll's electronics instead of batteries. An ancillary ear bud plug for making conversations confidential can be used when desired.

The preferred embodiments of the present invention disclosed herein are intended to be illustrative only and are not intended to limit the scope of the invention. It should be understood by those skilled in the art that various modifications and adaptations of the present invention as well as alternative embodiments of the present invention may be contemplated.

It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any and all embodiments within the scope of the following claims.

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